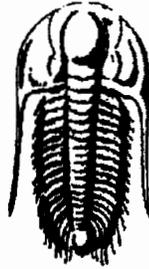


15-163-23412

5-9s-18w
Township 15 9s, not 19

CONFIDENTIAL

ORIGINAL



**TRILOBITE
TESTING, INC.**

KCC
MAR 22 2005 *sa*

CONFIDENTIAL

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water, Suite 300
Wichita, KS 67202

ATTN: C. Scott Robinson

⁹
~~5-16s-18w~~ Rooks

Copher # 1-5

Start Date: 2005.01.01 @ 08:20:43

End Date: 2005.01.01 @ 16:03:13

Job Ticket #: 20919 DST #: 1

RECEIVED

MAR 24 2005

KCC WICHITA

Murfin Drilling Co., Inc.

Copher # 1-5

⁹
5-16s-18w Rooks

DST # 1

Tor. & L.Kc.-A to D

2005.01.01

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

Copher # 1-5

250 N.Water, Suite 300
Wichita, KS 67202

5-19s-18w Rooks

Job Ticket: 20919

DST#: 1

ATTN: C.Scott Robinson

Test Start: 2005.01.01 @ 08:20:43

Tool Information

Drill Pipe:	Length: 3041.00 ft	Diameter: 3.80 inches	Volume: 42.66 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	42000.00 lb
			<u>Total Volume: 43.27 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	38000.00 lb
Depth to Top Packer:	3176.00 ft			Final	38000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	106.00 ft				
Tool Length:	126.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3157.00	
Shut In Tool	5.00			3162.00	
Hydraulic tool	5.00			3167.00	
Packer	4.00			3171.00	20.00 Bottom Of Top Packer
Packer	5.00			3176.00	
Stubb	1.00			3177.00	
Perforations	2.00			3179.00	
Change Over Sub	1.00			3180.00	
Recorder	0.00	6672	Inside	3180.00	
Blank Spacing	91.00			3271.00	
Change Over Sub	1.00			3272.00	
Recorder	0.00	11084	Outside	3272.00	
Perforations	7.00			3279.00	
Bullnose	3.00			3282.00	106.00 Bottom Packers & Anchor
Total Tool Length:	126.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

Copher # 1-5

250 N.Water, Suite 300
Wichita, KS 67202

5-19s-18w Rooks

Job Ticket: 20919

DST#: 1

ATTN: C.Scott Robinson

Test Start: 2005.01.01 @ 08:20:43

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
123.00	OCM-15%oil-85%mud	0.605
1.00	Oil	0.005

Total Length: 124.00 ft

Total Volume: 0.610 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6672

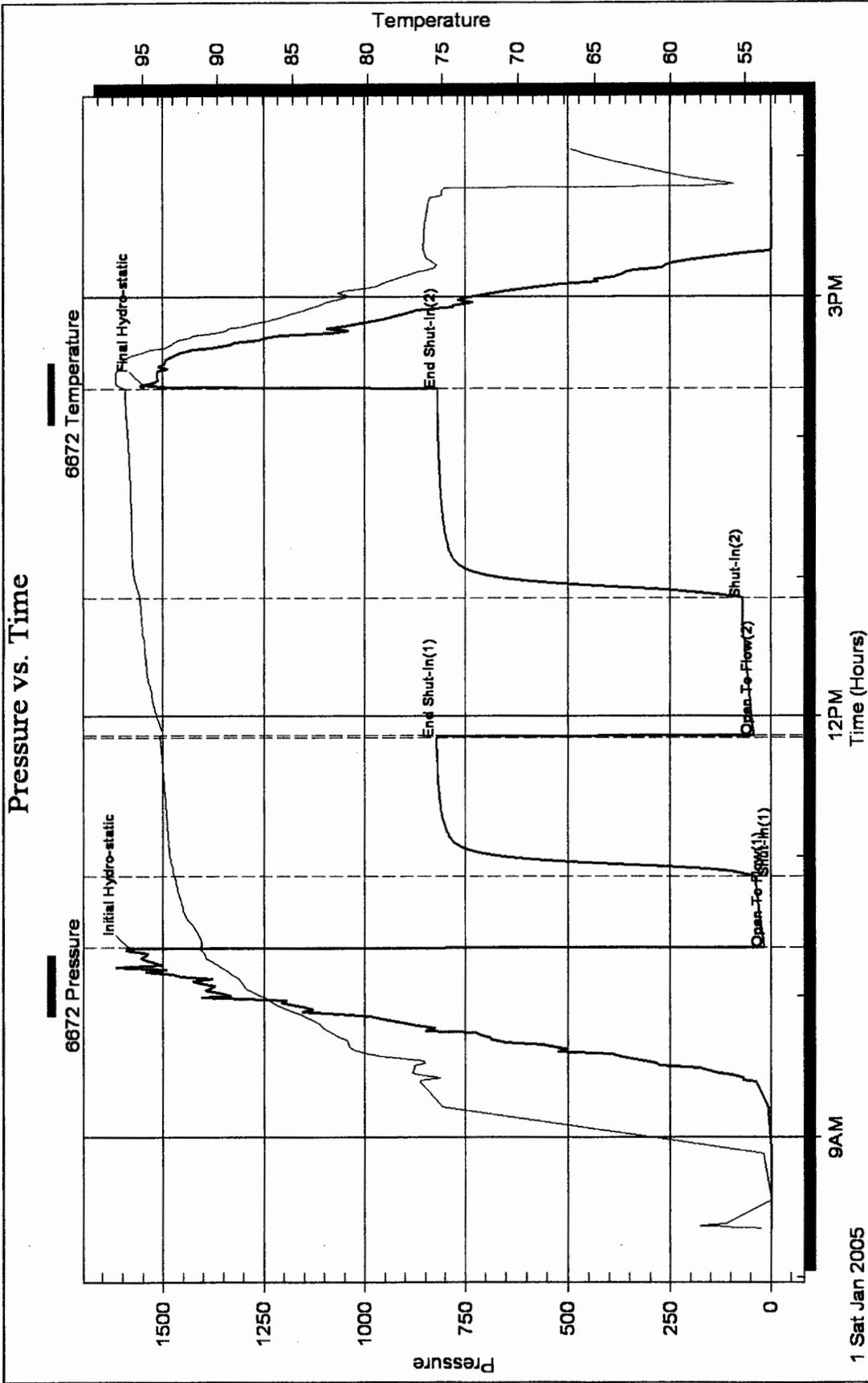
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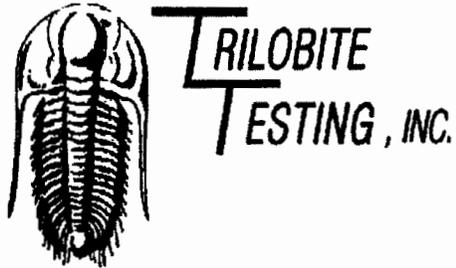
Murfin Drilling Co., Inc.

5-19s-18w Rooks

DST Test Number: 1

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.,Inc.**

250 N.Water,Suite 300
Wichita, KS 67202

ATTN: C.Scott Robinson

5-19s-18w Rooks

Copher # 1-5

Start Date: 2005.01.01 @ 22:42:42

End Date: 2005.01.02 @ 07:21:42

Job Ticket #: 20920 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Murfin Drilling Co.,Inc.

Copher # 1-5

5-19s-18w Rooks

DST # 2

LKc-E,F,G

2005.01.01



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

250 N Water, Suite 300
Wichita, KS 67202

ATTN: C.Scott Robinson

Copher # 1-5

5-19s-18w Rooks

Job Ticket: 20920

DST#: 2

Test Start: 2005.01.01 @ 22:42:42

GENERAL INFORMATION:

Formation: L.Kc.-E,F,G

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:38:42

Time Test Ended: 07:21:42

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 31

Interval: 3280.00 ft (KB) To 3308.00 ft (KB) (TVD)

Reference Elevations: 2038.00 ft (KB)

Total Depth: 3308.00 ft (KB) (TVD)

2033.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6672

Inside

Press@RunDepth: 335.94 psig @ 3283.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2005.01.01

End Date: 2005.01.02

Last Calib.: 2005.01.02

Start Time: 22:42:43

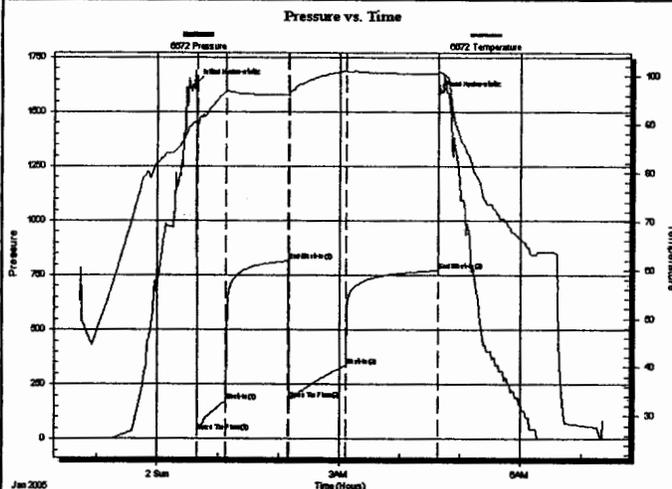
End Time: 07:21:42

Time On Btm: 2005.01.02 @ 00:38:12

Time Off Btm: 2005.01.02 @ 04:38:42

TEST COMMENT: F-Strong B.O.B.2 min.
FF-Strong B.O.B.8 min.

ISI-Strong B.O.B.14 min.
FSI-Strong B.O.B.15 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1630.45	90.67	Initial Hydro-static
1	33.05	90.40	Open To Flow (1)
30	174.13	97.01	Shut-In(1)
91	815.27	96.08	End Shut-In(1)
92	182.17	96.00	Open To Flow (2)
148	335.94	101.08	Shut-In(2)
240	772.17	100.49	End Shut-In(2)
241	1579.93	101.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
185.00	Salt Water	1.47
665.00	Gassy oil 10%gas 90%oil	9.33
0.00	1550 gas in pipe	0.00

Gas Rates

	Chole (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

Copher # 1-5

250 N.Water, Suite 300
Wichita, KS 67202

5-19s-18w Rooks

Job Ticket: 20920

DST#: 2

ATTN: C.Scott Robinson

Test Start: 2005.01.01 @ 22:42:42

Tool Information

Drill Pipe:	Length: 3163.00 ft	Diameter: 3.80 inches	Volume: 44.37 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 45000.00 lb
		Total Volume:	44.98 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3280.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	48.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3261.00	
Shut In Tool	5.00			3266.00	
Hydraulic tool	5.00			3271.00	
Packer	4.00			3275.00	20.00 Bottom Of Top Packer
Packer	5.00			3280.00	
Stubb	1.00			3281.00	
Perforations	2.00			3283.00	
Recorder	0.00	6672	Inside	3283.00	
Perforations	22.00			3305.00	
Recorder	0.00	13308	Outside	3305.00	
Bullnose	3.00			3308.00	28.00 Bottom Packers & Anchor

Total Tool Length: 48.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

Copher # 1-5

250 N.Water, Suite 300
Wichita, KS 67202

5-19s-18w Rooks

Job Ticket: 20920

DST#: 2

ATTN: C.Scott Robinson

Test Start: 2005.01.01 @ 22:42:42

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

85000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
185.00	Salt Water	1.465
665.00	Gassy oil 10%gas 90%oil	9.328
0.00	1550 gas in pipe	0.000

Total Length: 850.00 ft

Total Volume: 10.793 bbl

Num Fluid Samples: 0

Num Gas Borbs: 0

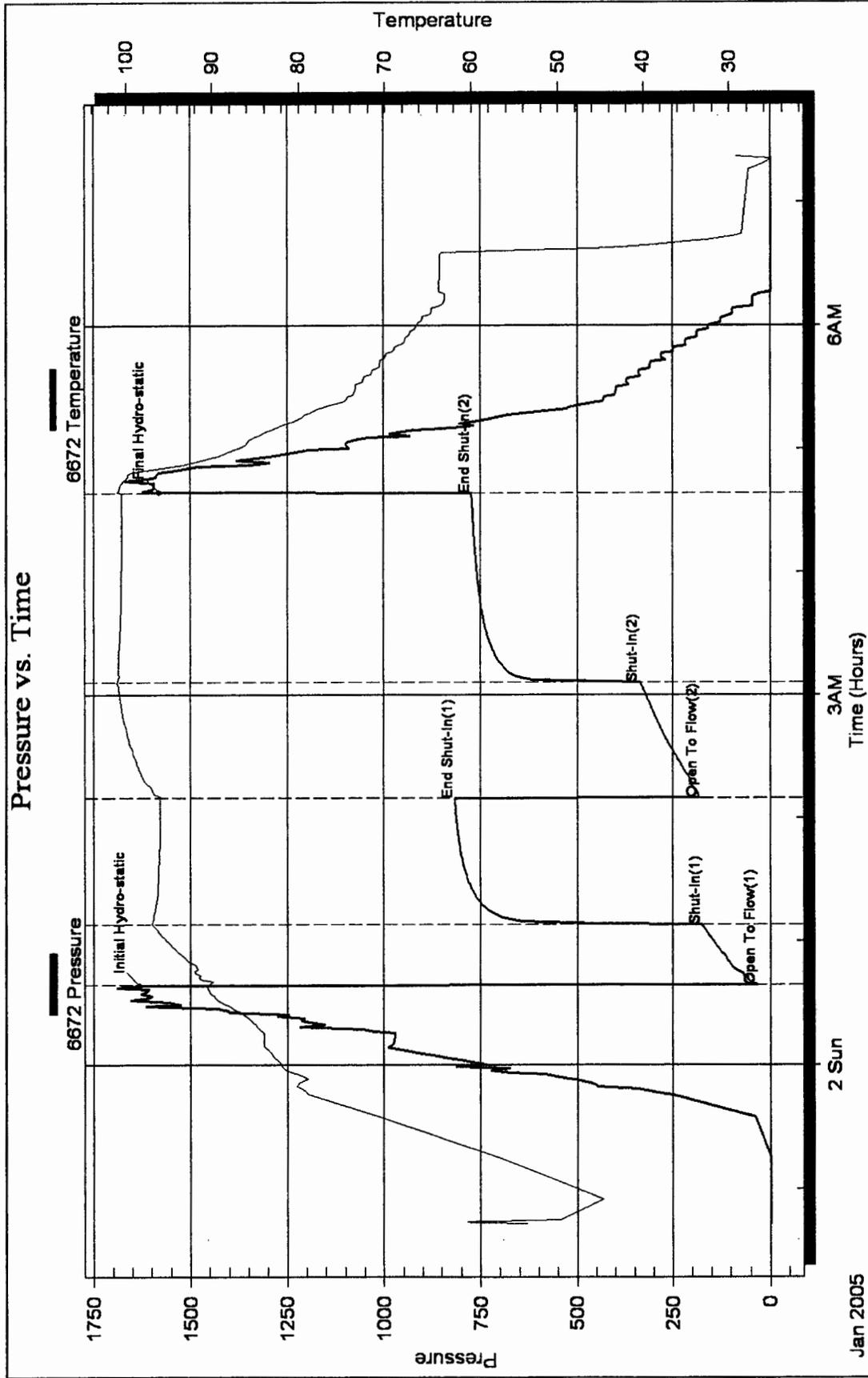
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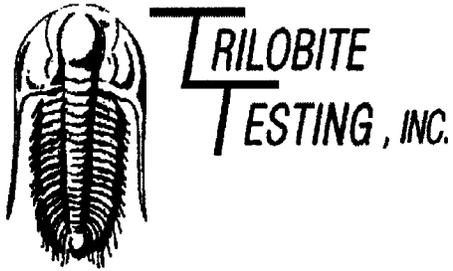
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water, Suite 300
Wichita, KS 67202

ATTN: C. Scott Robinson

5-19s-18w Rooks

Copher # 1-5

Start Date: 2005.01.02 @ 19:42:23

End Date: 2005.01.03 @ 01:45:53

Job Ticket #: 20921 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Murfin Drilling Co., Inc.

Copher # 1-5

5-19s-18w Rooks

DST # 3

L.Kc.-

2005.01.02



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N.Water, Suite 300
Wichita, KS 67202
ATTN: C.Scott Robinson

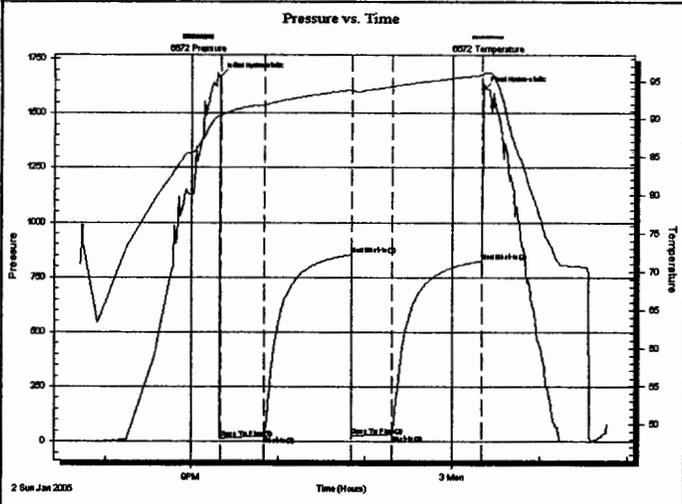
Copher # 1-5
5-19s-18w Rooks
Job Ticket: 20921 **DST#: 3**
Test Start: 2005.01.02 @ 19:42:23

GENERAL INFORMATION:

Formation: **L.Kc.-**
Deviated: **No Whipstock:** **ft (KB)**
Time Tool Opened: 21:19:53
Time Test Ended: 01:45:53
Interval: **3334.00 ft (KB) To 3424.00 ft (KB) (TVD)**
Total Depth: **3282.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Fair**
Test Type: **Conventional Bottom Hole**
Tester: **John Schmidt**
Unit No: **31**
Reference Elevations: **2038.00 ft (KB)**
2033.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6672 Inside
Press@RunDepth: **33.23 psig @ 3338.00 ft (KB)** Capacity: **7000.00 psig**
Start Date: **2005.01.02** End Date: **2005.01.03** Last Calib.: **2005.01.03**
Start Time: **19:42:24** End Time: **01:45:53** Time On Btrm: **2005.01.02 @ 21:19:23**
Time Off Btrm: **2005.01.03 @ 00:20:53**

TEST COMMENT: **F-Weak built to 1" in.** **ISI-Dead**
FF-Dead **FSI-Dead**



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1668.65	90.53	Initial Hydro-static
1	14.27	90.39	Open To Flow (1)
31	23.63	91.86	Shut-In(1)
91	852.31	93.87	End Shut-In(1)
92	25.98	93.73	Open To Flow (2)
119	33.23	94.27	Shut-In(2)
181	824.95	95.80	End Shut-In(2)
182	1607.59	95.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud few spots of oil	0.10

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

Copher # 1-5

250 N. Water, Suite 300
Wichita, KS 67202

5-19s-18w Rooks

Job Ticket: 20921

DST#: 3

ATTN: C.Scott Robinson

Test Start: 2005.01.02 @ 19:42:23

Tool Information

Drill Pipe:	Length: 3195.00 ft	Diameter: 3.80 inches	Volume: 44.82 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 43000.00 lb
			<u>Total Volume: 45.43 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3334.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	90.00 ft			
Tool Length:	110.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3315.00	
Shut In Tool	5.00			3320.00	
Hydraulic tool	5.00			3325.00	
Packer	4.00			3329.00	20.00 Bottom Of Top Packer
Packer	5.00			3334.00	
Stubb	1.00			3335.00	
Perforations	2.00			3337.00	
Change Over Sub	1.00			3338.00	
Recorder	0.00	6672	Inside	3338.00	
Blank Spacing	60.00			3398.00	
Change Over Sub	1.00			3399.00	
Recorder	0.00	11084	Outside	3399.00	
Perforations	22.00			3421.00	
Bullnose	3.00			3424.00	90.00 Bottom Packers & Anchor

Total Tool Length: 110.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

Copher # 1-5

250 N.Water, Suite 300
Wichita, KS 67202

5-19s-18w Rooks

Job Ticket: 20921

DST#: 3

ATTN: C.Scott Robinson

Test Start: 2005.01.02 @ 19:42:23

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Mud few spots of oil	0.098

Total Length: 20.00 ft

Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6672

Inside

Murfin Drilling Co., Inc.

5-19s-18w Rocks

DST Test Number: 3

Pressure vs. Time

